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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/720,594
Filing Date: November 24, 2003
Appellant(s): NEWMAN, FREDERIC M.

Michael F. Hay
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed April 5, 2007 appealing from the Office action mailed July 18, 2006.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

4,545,017	Richardson	10-1985
6,527,130	Ruddy	3-2003

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 4-6, 8, 10-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Richardson (US 4,545,017) in view of Ruddy (US 6,527,130).

As per claim 4, Richardson discloses a process for controlling the speed of a traveling block, the process comprises: determining the speed of the block (col.6, lines 14-19); adjusting the speed of the block to maintain its speed at or below the maximum velocity value (col.5, lines 25-31; col.9, lines 16-22). Moreover, Richardson teaches an upper slow down zone (2 feet to 18 feet) with maximum velocity value (0.3 ft/sec-6.7 ft/sec) being lower than the zone below the upper slow down zone (19 ft). Further, since the length of the upper slow down zone (at 20 ft) is proportional with the velocity of the block, Richardson obviously teaches that the length of the upper slow down zone is proportional to the momentum of the traveling block. Richardson does not explicitly disclose comparing the speed of the block to a maximum velocity, and determining the maximum velocity value as a function of the measured weight of the block, however, since Richardson teaches the capability of monitoring the speed of the block and adjusting the speed of the block when the speed of the block exceeds a predetermined value (col.8, lines 33-43; col.9, lines 1-2), and since comparing the speed with a predetermined value for determining exceeding of the value would have been well known Richardson obviously encompasses comparing the speed of the block with the predetermined value. Richardson does not explicitly disclose determining maximum velocity as a function of measured weight of the traveling block. However, Richardson mentions the effect of weight on the speed (col.9, lines 27-35; col.8, lines 59-61) and Ruddy suggests determining maximum velocity value as a function of dynamic weight load (col.1, lines 49-51; col.3, lines 15-19). Ruddy further teaches that measuring the weight of a traveling block using weight sensing device (the load cells) would have been known

(col.1, lines 60-63). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to include consideration of dynamic measurement of the block weight using well known weight sensor cells in determining the maximum speed of the block in the process of Richardson in order to provide optimal selection of control speed to the block according to the weight of the block to ensure safety and efficiency in controlling the speed of the traveling block.

As per claim 5-6, slowing down the speed of the engine for slowing down the speed of lifting or lowering the block, providing visual or sound warning devices for warning certain condition of a vehicle would have been well known.

As per claim 8, Richardson teaches continually decreasing the maximum velocity in the slow down zone (col.8, lines 32-40).

As per claim 10-12, Richardson also teaches a lower slow down zone (distance 6ft-13 ft from the floor) with maximum velocity (6ft/sec) being continuously lower than the maximum velocity at the point (29 ft-20 ft at speed 7.1ft/sec-7.5 ft/sec) immediately above the slow down range (col.9, lines 3-22; col.8, lines 15-20). Further, Richardson teaches that the length of the slow down zone is proportional to the momentum of the traveling block (refer to the response to argument section below).

As per claim 13-14, Richardson teaches stopping the block when the uppermost position is reached (col.7, lines 32-34). Furthermore, sensing the position of the block using metal detector would have been well known.

As per claim 15-16, Richardson teaches slowing the block speed using brake (col.7, lines 23-35; col.9, lines 35-44). Further attaching pneumatic brake to a proportional valve for controlling applied brake pressure; logging data concerning operation or movement of the block for recording and monitoring purpose would have been well known.

(10) Response to Argument

a. Appellant's argument: on page 7, first and fourth paragraphs, the appellant asserts that Richardson and Ruddy fail to teach comparing the speed of the traveling block to the maximum velocity value, the maximum velocity is determined as a function of the measured weight on the traveling block, the weight of the traveling block is measured by a weight sensing device.

Examiner's answer:

Richardson teaches comparing the speed of the traveling block to maximum velocity value in col. 9, lines 16-22, col.8, lines 33-43.

Richardson suggests that the maximum velocity is determined as a function of the measured weight on the traveling block in col. 4, lines 10-25. In the same field of endeavor, Ruddy explicitly teaches that the maximum velocity is determined a function of the measured weight of a traveling block (Ruddy col.1, lines 49-51; col.3, lines 15-18; col.13, lines 46-49).

Richardson teaches using weight sensing device to measure the weight of the block (col.7, lines 10-12). Ruddy also teaches that measuring traveling block by a weight sensing device would have been well known (Ruddy col.1, lines 60-63).

b. Appellant's argument: in page 7, third paragraph, the appellant asserts that Richardson fails to disclose determining maximum velocity. Richardson teaches that the operator selects the preset maximum velocities and in Richardson col.7, lines 53-57, Richardson teaches that "the preselected limits of speed and accelerations, load, and limits of travel are unalterably set for a particular size and type of oil well drilling apparatus at owner's discretion". The appellant asserts that even if the examiner's assertion in the advisory action dated March 5, 2007 that the maximum velocity can be changed by the owner by selecting other velocity parameters is true, the teaching of Richardson does not meet all the claim limitations.

Examiner's answer:

It is noted that Richardson does imply that the owner determine maximum velocity when selecting the preset speed and velocity parameter because Richardson teaches that the velocity should be selected for *a particular size and type* of the apparatus. Richardson also teaches *several maximum speed parameters at different height and weight of the traveling block* (table I in col.7, lines 65-67-col.8, lines 1-23; and col.8, lines 24-43). Further, in the same field of endeavor, Ruddy explicitly teaches that the maximum velocity is determined a function of the measured weight of a traveling block (Ruddy col.1, lines 49-51; col.2, lines 26-27; col.3, lines 15-18; col.13, lines 46-49).

c. Appellant's argument: in page 7, last paragraph-page 8, lines 1-3, and page 8, 2nd paragraph, the appellant asserts that Ruddy does not teach comparing the speed of the traveling block to a maximum velocity value and determining the

load with weight sensors, but the appellant admits that Ruddy does teach determining the load on the crane hoist and determining a maximum operating speed.

Examiner's answer:

The examiner relies on the teachings of Ruddy to show that determining maximum velocity of the block as a function of the weight of the block would have been known (Rudy col.1, lines 49-51; col.2, lines 26-27). Ruddy also shows that using weight sensors (the load cell) to measure the load would have been known (Ruddy col.1, lines 60-63). Ruddy does not teach comparing the speed of the traveling block, however, Richardson teaches the limitation in col. 9, lines 16-22, col.8, lines 33-43.

d. Appellant's argument: in page 8, first and 3rd paragraph, the appellant argues that Ruddy teaches away from the use of weight sensor, therefore one of ordinary skill in the art would have no reasonable expectation of success in combining the teaching of Richardson with the load cells described in Ruddy

Examiner's answer:

Ruddy does not teach away from the use of weight sensor, in fact, Ruddy just teaches an "*improved* weight sensor" which can determine and provide more accurate weight of the traveling load (Ruddy col. 1, lines 60-67; col.2, lines 37-41). Using the improved weight sensor taught by Ruddy in determining the weight of the traveling block just enhance accuracy in determining the weight of the traveling block taught by Richardson. Therefore, an ordinary person skilled in the art would obviously expect great and predictable success in using the

improved weight sensor in determining the maximum speed of the traveling block as taught by Ruddy to fine tune the accuracy in determining maximum speed (7.5 ft/sec, 7.1 ft/sec. 6.7 ft/sec, etc. in table I col.7, lines 65-68-col.8, lines 1-24) taught by Richardson.

e. Appellant's argument: in page 8, last three paragraphs through page 9, lines 1-7, the appellant asserts that Richardson and Ruddy do not teach that the length of the upper slow down zone for the traveling block is proportional to the momentum of the block

Examiner's answer:

The word "momentum" itself means the product of a body's mass and linear velocity (momentum = mass x velocity), the definition of the word could be found in many common dictionaries (example: The Webster's II NewRiverside University Dictionary). In col.8, lines 33-35, and lines 35-37, Richardson teaches monitoring the change in the speed of the traveling block 9 times/sec and the speed of the block must be adjust based on the maximum speed (such as 7.5 ft/sec, 7.1 ft/sec, 6.7 ft/sec) on the table I in col.7, lines 65-67 and col.8, lines 1-23. According to table I taught in Richardson, the last line of col.7 and col.8, lines 6-9, when the mass of the block is empty (fixed mass), the speed of the block is proportional to the length of the upper slow down zone. Since Momentum = mass (M) X speed, with fixed mass M (empty load), the momentum is proportional to the speed of the block, this means when the speed is increasing, the momentum is increasing, and according to the table I, the last line of col.7 and col.8, lines 6-9 shows the length of the upper slow down zone (the distance

from the crown) increase with the increase of the speed (therefore the distance increases with the increase of the momentum), therefore, Richardson clearly encompasses teaching that the length of the upper slow down zone for the traveling block is proportional to the momentum of the block.

f. Appellant's argument: in page 9, 1st to 2nd paragraph, the appellant asserts that the Richardson parameters are preset and cannot be changed, the deceleration program is selected by the rig owner prior to the actual operation of the rig and is based upon assumed variables rather than based on the actual calculated momentum of the traveling block. The preset parameters are not variable and thus the upper slow down zone cannot be proportional to the momentum of the traveling block because the momentum of the traveling block varies based upon the measured weight of the traveling block. And Richardson teaches unalterably set parameters.

Examiner's answer:

It is noted that the independent claim 4 does not claim the "actual calculated momentum" and does not claim any "automatic" setting of the momentum, the appellant's argument should not be considered or read into the claim. The examiner does not agree with the appellant's argument that the "preset parameters are not variable and thus the upper slow down zone cannot be proportional to the momentum". It is noted that it is not required that the preset parameters be variables to effect proportionality of the momentum and the distance in the upper slow down zone; so long as the distance of the slow down zone be set in proportional to either or both the mass and the speed of the block,

the momentum of the block is proportional to the length of the upper slow down zone. As explained above, since Richardson teaches setting *different values of speeds at different lengths* in the upper slow down zone (table I in col.7, lines 65-67 and col.8, lines 1-23), Richardson obviously encompasses teaching the length in the upper slow down zone is proportional to the momentum. As explained in the previous section, the Momentum = mass (M) X speed, when the speed changes, the momentum is proportional to the speed of the block even if the mass is fixed. Furthermore, in col.8, lines 33-43, Richardson teaches actual calculated momentum because the speed of the block and the length of the upper slow down zone is measured 9 times per second and the speed of the block (therefore the momentum of the block) is adjusted according to the distance. Moreover, in col.9, lines 27-32, *Richardson also teaches that the weight of the block should also be used to more precisely compute the amount of distance required in slow down zone*, therefore, Richardson obviously teaches actual calculated momentum. Concerning the appellant's argument on the feature "the preset parameters can be automatically changed as a function of weight" and the "unalterably set" parameters, the examiner does not think the argument is relevant nor should be considered because claim 4 does not really requires or claims any "automatic" feature nor claims if the parameters must be "alterably set".

g. Appellant's argument: on page 9, 3rd paragraph, the appellant argues that Ruddy is silent with respect to proportionality of the upper slow down zone.

Examiner's answer:

The examiner relies on the main reference (Richardson) to address the limitation. Refer to the explanation in the sections e to f above.

h. Appellant's argument: on page 9, last paragraph through page 10, lines 1-5, the appellant complains that the examiner does not provide support on the features "the length upper slow down zone is proportional to the momentum of the traveling block".

Examiner's answer:

Richardson obviously encompasses teaching the claimed limitation. Please refer to the explanation in the section e to f above.

i. Appellant's argument: on page 10, section 2 through page 11, the appellant argues that the examiner fails to provide the motivation to combine the reference.

Examiner's answer:

The examiner does provide motivation to combine the teaching of Richardson and Ruddy in claim 4 in the final office action issued on July 18, 2006. The motivation is herein repeated: "It would have been obvious to a person of ordinary skill in the art at the time the invention was made to include consideration of dynamic measurement of the block weight using well known weight sensor cells in determining the maximum speed of the block in the process of Richardson in order to provide optimal selection of control speed to the block according to the weight of the block to ensure safety and efficiency in controlling the speed of the traveling block."

Concerning appellant's argument on page 11, last two paragraphs, refer to examiner's answer in section e to f above. Richardson teaches *selecting different maximum velocity values at different length based on the particular size* and type of the apparatus (table I in col.7, lines 65-67; col.8, lines 1-23 and col.7, lines 50-58), according to col.7, lines 50-58, the owner of the apparatus can obviously change the selection of the maximum speed. Also according to the table I, the maximum velocity does vary according to the weight (the empty, the loaded) of the block, furthermore, Richardson clearly teaches that *measuring the exact weight of the block would provide precisely amount of distance required to slow down the block (Richardson col.9, lines 27-32).* In the same context, Ruddy teaches determining the maximum velocity of the block using the exact weight of the traveling block (Ruddy col1, lines 49-51, col.2, lines 26-27; col.3, lines 15-18). Based on the teaching of Richardson and Ruddy, a person of ordinary skill in the art would be motivated to use the sensor taught by Ruddy to automatically calculate and adjust the maximum speed of the traveling block taught by Richardson. The result in implementing the weight sensor and the device for automatically determining maximum speed of the block to the apparatus taught by Richardson is predictable as suggested by Richardson in col.9, lines 27-32.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

July 20, 2007

THU V. NGUYEN
PRIMARY EXAMINER

Conferees:

Meredith Petravick

Thomas Black